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09/421,963	10/20/1999	KEVIN L. SCHULTZ	5150-36800	4855

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EXAMINER	
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ART UNIT	PAPER NUMBER
2613	12

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/421,963	Applicant(s) SCHULTZ ET AL.	
	Examiner Tung T. Vo	Art Unit 2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *03* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 January 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-26 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-4, 6, 9-14, 16-19, and 23-26 are rejected under 35 U.S.C. 102(b) as being anticipated by Sites et al. (US 5,515,159).

Re claims 1-4, 6, 9-14, 16-19, and 23-26, Sites discloses a system and its method for acquiring images of variable sized objects in an image acquisition system, wherein the image acquisition system comprises:

an image acquisition device (60 of fig. 1), having a object detector (441 of fig. 2, e.g. the edge position sensor (441) detects the coming edge (presence) of the package (14 of fig. 2)) for physically detecting presence of a first object;

an image sensing device (64-1 and 64-2 of fig. 1) generating image data corresponding to the first object;

the image acquisition device (60 461 of fig. 1) initiating storage (98 of fig. 6)of the image data corresponding to the first object in response the image acquisition device detecting the presence of the first object (88 of fig. 6);

the image acquisition device (60 of fig. 1) having an object detector (46 of fig. 2) physically detecting absence of the image data corresponding to the first object in response to the image acquisition device (col. 4, lines 6-8);

the image acquisition device (60 of fig. 1) discontinuing storage (92, 94 of fig. 6) of the image data corresponding to the first object in response to the image acquisition device detecting the absence of the first object (94 of fig. 6);

a first direct memory access controller (92 of fig. 6) for transferring the image data corresponding to the first object from the on-board memory (94 of fig. 6) to an image buffer in a memory of a computer (86 of fig. 6).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-5, 13-20, and 25-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perry et al. ((US 5,903,341) in view of Regier (US 5,339, 607).

Re claims 1-5, 13-20, and 25-26, Perry teaches a system and its method for acquiring images of variable sized objects the system comprising: an object detector (92 of fig. 5) for

detecting presence of a first object and providing a detection signal to an image sensing device that is a scan-line camera (50 of fig. 5) (note the video cameras (50) are triggered by the object detector(92)), see (col. 5, lines 11-19);the image sensing device is the camera (50) for generating image data corresponding to the first object; a acquisition device (88 of fig. 5) for initiating storage of the image data corresponding to the first object in response to the image acquisition device detecting the presence of the first object (col. 6, lines 1-23) (note Direct Memory Access (DMA) contained buffers that are used to store the captured image based on the time is set in each buffer); wherein the acquisition device further comprises an object detector (98 of fig. 5) for detecting the absence of the first object (col. 5, lines 30-62) (note the detector (98) detects the first object that has been passed by, and deactivate the camera (50), End Scanline); wherein the acquisition device (88 of fig. 5) for discontinuing storage of the image data corresponding to the first object in response to the image acquisition device detecting the absence of the first object by the detection (98 of fig. 5) (note End Scanline).

Perry further teaches the image acquisition device for recording a size of the first object (col. 5, lines 46-61); and a number of scan lines corresponding to the first object stored by the image acquisition device (col. 6, lines 1-23), wherein the image acquisition device further comprises a first direct memory access (DMA) controller (col. 6, lines 1-23) for transferring the image data corresponding to the first object from the on board memory to an image buffer in a memory of a computer system (col. 3, lines 9-17; 20 of fig. 1).

Perry further teaches the image acquisition device comprises a counter (a 32 bit un-signed counter (89) is incremented (89 of fig. 5) for counting a number of scan lines corresponding to the first object, wherein the image acquisition device configured (a) start the

counter in response to the presence of the object detected by the object detector (92) (note Start Scanline), (b) to terminate the counter in response to the object detector (98) detecting the absence of the object (note End Scanline), see (col. 5, lines 37-62); wherein the image acquisition device records a final value of the counter after counter terminates counting (col. 5,lines 30-36).

It is noted that the camera of Perry does not physically detect the presence and absence of the object as claimed.

However, Regier teaches the sensor (col. 4, lines 1-16) for physically detecting the presence and absence of the object. Therefore, taking the teachings of Perry and Regier as a whole, it would have been obvious to one skill in the art to modify the detector and sensor of Regier (col. 4, lines 1-16) into the system of Perry for the same purpose of physically detecting the presence and absence of the object. Doing so would allow the system accurately counts the objects of produce when the objects are passing the detector as suggested by Regier (col. 3).

6. Claims 6, 9, 11, 12, 21, 23, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perry et al. (US 5,903,341) in view of Regier (US 5,339, 607) as applied to claims 1, 16, 18, and further in view of White et al. (US 4,972,494).

Re claims 6, 9, 11, 12, 21, and 23-24, the combination of Perry and Regier teaches all limitations except the image acquisition device for rearming after the object detector detects the absence of the first object, and after the image acquisition device discontinues storage of the image data corresponding to the first object, wherein the image acquires more image data of a

second object after said rearming and in response to detecting presence of the second object and a method repeatedly for another object as claimed

However, White teaches the system (fig. 1) having the image acquisition device (140 of fig. 1) that has a scan line camera (12 of fig. 1) for rearming after the object detector detects the absence of the first object, and after the image acquisition device discontinues storage of the image data corresponding to the first object, wherein the image acquires more image data of a second object after said rearming and in response to detecting presence of the second object (col. 3, lines 34-49) and storing the second image in the computer (140 of fig. 1). White further teaches wherein the detector enables the scan line camera, that sensor becomes disable until the master part detector again triggers the system for the next package (second object, third object) to be evaluated (col. 3, lines 46-49), this suggests the acquiring method is repeatedly for a plurality of objects in addition to the first object.

Taking the teachings Perry, Regier, and White as a whole, it would have been obvious to one of ordinary skill in the art to implement the teachings of White into the image acquisition device of the combined system of Perry and Regier for the same purpose of acquiring an image data of the next come in object detected by the detector as suggested by White (col. 3, lines 46-49). Doing so would avoid problems in prior synchronized in the image acquisition , which arose because of variable sized objects as suggested by White (col. 4, lines 43-45).

7. Claims 7, 8, 10, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perry et al. ((US 5,903,341) in view of Regier (US 5,339, 607) and White et al. (US 4,972,494) as applied to claims 1, 5-6, 9, 18, 20-21, and further in view of Miller (US 4,760,270).

Re claims 7, 8, 10, and 22, the combination of Perry, Regier, and White further teaches the memory image buffer in a memory of a computer (col. 6, lines 1-18) where the counter is set to count the image data stored in the buffer, the buffer would have holding multiple set of level to indicate where the data goes to the buffer (col. 6, lines 7-14) as suggested by White. This is broadly interpreted that the buffer would have a pointer to assign the image data to the memory.

It is noted that the combination of Perry, Regier, and White fails to particularly disclose resetting counter as specified in claims 7, 8, 10 and 22.

However, Miller teaches the counter (43 of fig. 2) is reset at the end of each sweep of the diode array by a signal from the end of sweep input (44 of fig. 2) so that its count starts from its reset value for each scan and it issues on "Diode Number" bus (46 of fig. 2) the digital number designating the diode currently scanned. That end of sweep signal is derived from the camera scan control at the end of each diode array sweep to add a count to sweep counter (45 of fig. 2) identifying the next scan number on "Sweep Number" bus (47 of fig. 2), this suggests resetting counter.

Taking the teaching of Perry, Regier, White, and Miller as a whole, it would have been obvious to one skill of ordinary skill in the art to implement the retting counter (43 of fig. 2) of Miller into the counter (89 of fig. 5) of Perry in combination with Regier and White for the purpose of resetting the counter to count the scan line of the camera.

Doing so would allow the camera to easily recognize how many the scan lines of the camera have been counted and the counter is reset at beginning of the detecting image sequence of the camera as suggested by Miller (col. 54-58).

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See the previous Office Action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tung T. Vo whose telephone number is (703) 308-5874. The examiner can normally be reached on 6:30 AM - 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris. Kelley can be reached on (703) 305-4856. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TUNG T. VO
PATENT EXAMINER

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